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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/952,990	04/09/1998	MATS LEIJON	70556-2/8238	3261

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DYKEMA GOSSETT PLLC
FRANKLIN SQUARE, THIRD FLOOR WEST
1300 I STREET, NW
WASHINGTON, DC 20005

EXAMINER
MULLINS, BURTON S

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 02/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/952,990	LEIJON ET AL.	
	Examiner	Art Unit	
	Burton S. Mullins	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-8,11,13,15-19,21-43,45,46 and 48-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-8,11,13,15-19,21-43,45,46 and 48-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

BURTON S. MULLINS
PRIMARY EXAMINER

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2, 5-8, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Shildneck (US 3,014,139) and Evans (US 3,602,636). Applicant's admitted prior art, in particular Fig.2, teaches a HVDC transmitter plant directly connected for generating high voltage power comprising a rotating high-voltage machine with a winding and a converter for converting mechanical torque into direct current and direct voltage, or vice versa.

Applicant's prior art does not specifically describe a flexible electrical cable comprising a plurality of insulated strands and at least one uninsulated strand.

Shildneck teaches a flexible insulated conductor used in large, turbine-driven generators (c.1, lines 9-16) which employs a flexible insulating material (e.g., silicone rubber, c.3, lines 73-75), a flexible conductor (c.4, lines 40-44) and a strand twisting technique (c.4, lines 47-50) to impart sufficient flexibility to the conductor so as to overcome the deficiencies of semi-rigid or rigid conductor bars described at c.2, lines 28-38, such as increased cost and manufacturing time.

Evans teaches service entrance cables including insulated and non-insulated conductors, the latter used to provide a neutral or ground for the cable (c.2, lines 46-50 & 56-63).

It would have been obvious to one having ordinary skill to modify the prior art generator and provide flexible cable conductors per Shildneck to reduce cost and manufacturing time, and further to provide insulated and uninsulated strands per Evans to provide a neutral or ground for the cable.

3. Claims 15-19, 21-29, 32-43, 45-46 and 48-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art, Shildneck and Evans, further in view of Elton et al. (US 4,622,116). The combination of applicant's admitted prior art, Shildneck and Evans does not teach conductors with semi-conducting properties.

Elton teaches that it is known to have an electrical cable comprising an internal grading layer of semi-conducting pyrolyzed glass fiber layer in electrical contact with the cable conductor. In another embodiment, Elton teaches an electrical cable with an exterior layer of internal grading layer of semi-conducting pyrolyzed glass fiber in contact with an exterior cable insulator with a predetermined reference potential. Elton's cable winding minimizes the possibilities of corona discharge, maintains resistivity value after impregnation, minimizes voids and maintains uniform and equal electric potential (c.2, lines 44-60).

It would have been obvious to modify applicant's admitted prior art, Shildneck and Evans and provide conductors with semi-conducting properties per Elton since semi-conductors would have been desirable to minimize possibility of corona discharge.

With regard to forming the semi-conducting layers with the same coefficient of thermal expansion as that of the insulation layer, one of ordinary skill would have realized this feature

since it would have prevented cracking of the insulation and wear between the insulation and semi-conducting layer.

Regarding claim 29, Shildneck teaches stator slots comprising cylindrical openings for receiving the windings circular cross-sections separated by narrow waist parts indicated at 5 (Fig.1).

4. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art, Shildneck, Evans and Elton et al., further in view of German Patent No. 468,827. The combination of applicant's admitted prior art, Shildneck, Evans and Elton et al. does not teach stator slots with substantially cylindrical openings of decreasing radius.

German Patent 468,827 teaches a stator with cylindrical opening winding slots having decreasing radius in order to accommodate winding conductors of varying diameter (c.1, lines 25-29).

It would have been obvious to one having ordinary skill in the art to modify applicant's admitted prior art, Shildneck, Evans and Elton et al. and provide cylindrical stator slot openings of decreasing radius in order to accommodate winding conductors of varying diameter.

Response to Arguments

5. Applicant's arguments filed 12-03-01 have been fully considered but they are not persuasive. Regarding Shildneck teaching only a low voltage machine, the terms "low voltage" and "high voltage" used throughout applicant's argument do not help to convince the

examiner of Shildneck's inapplicability. Applicant's specification defines "high voltage" as voltages exceeding 10kV (p.20, lines 17-18). Though Shildneck gives no specific output voltage, the order of magnitude of tens of kV is common amongst "large, turbine-driven generators" disclosed by Shildneck.

Applicant argues that Evans "has nothing to do with high voltage electric machines," i.e., Evans is nonanalogous art. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Evans is within the field of applicant's endeavor since it pertains to an electrical conductor.

In response to applicant's arguments against the Elton reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Elton is used to show that semi-conductive conductors would have been desirable means to minimize possibility of corona discharge.

Conclusion

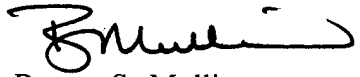
6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez, can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
February 6, 2002